IN THE CLAIMS

Cancel claims 1-11

12. (New) A pharmaceutical composition comprising as an active principle a fragment of a peroxiredoxin and/or a peroxiredoxin and optionally dihydrolipoic acid in an effective amount and a pharmaceutically acceptable additive.

13. (New) A pharmaceutical composition according to claim 12, wherein said effective amount is (in weight percent) from about 10.0 to about 90.0.

14. (New) A pharmaceutical composition according to claim 12, wherein the ratio of said peroxiredoxin and/or fragment thereof and dihydrolipoic acid is in the range (w/w) of from 1:1 to 50:1.

15. (New) A pharmaceutical composition according to claim 12, wherein the content of peroxiredoxin is within a range of from 5.,0 to 45.0 (in weight percent), the content of fragment thereof is within a range of from 5.0 to 45.0 (in weight percent), and the content of dihydrolipoic acid is within a range of from 1.0 to 50 (in weight percent), the sum of these three components being 90 percent by weight, and the ratio of the peroxiredoxin and/or fragment thereof to dihydrolipoic acid being within a range (w/w) of from 1:1 to 50:1.

16. (New) A pharmaceutical composition according to claim 12, which is in a liquid form.

17. (New) A pharmaceutical composition according to claim 12, wherein said effective amount of the active principle is (in weight percent) from 0.01 to 1.0.

18. (New) A pharmaceutical composition according to claim 12, which is in a lyophilized form.

19. (New) A pharmaceutical composition according to claim 12, wherein said effective

amount of the active principle is (in weight percent) from 0.1 to 90.

20. (New) A pharmaceutical composition according to claim 12, which is in a tabletted form.

21. (New) A pharmaceutical composition according to claim 12, wherein said effective amount of the active principle is (in weight percent) from 0.01 to 90.

22. (New) A pharmaceutical composition according to claim 12, wherein peroxiredoxin is selected from the group consisting of PrxI, PrxII, PrxIII, PrxIV, PrxV and PrxVI.

23. (New) A pharmaceutical composition according to claim 1, wherein said peroxiredoxin is human peroxiredoxin Prx VIhum.

24. (New) A method of enhancing the antioxidant protection of mammals, comprising contacting the pharmaceutical composition according to claim 12 with the intercellular space of a tissue, organ or a whole organism of a mammal.

25. (New) A method according to claim 24, wherein said contacting is effected through passive or active diffusion in application, spraying, or with the aid of parenteral or endolumbal administration with the aid of an injection, or by parenteral administration with the help of an infusion, inhalation, introduction into a drainage, or by way of sublingual, vaginal, rectal introduction, or by drops into the nose or eyes.

26. (New) A method of enhancing the antioxidant protection of mammals, comprising contacting the pharmaceutical composition according to claim 12 with the intercellular space of a tissue, organ or a whole organism of a mammal, wherein contacting of the pharmaceutical composition is effected with a different therapeutic agent which is administered before, simultaneously with or after said pharmaceutical composition.

27. (New) A method according to claim 26, wherein said therapeutic agent is selected from the group consisting of a) antibacterial, antivirus, antifungal, antihistaminic

preparations, hormones; vitamins; or cytokins; b) an enzyme which provides additional protection against free radicals in the intermolecular space; c) a low-molecular weight compound which provides additional lowering of the level of free radicals inside the cell, d) a preparation employed for the transplantation or cryopreservation of organs and e) a biologically active protein.

28. (New) A method for producing a pharmaceutical composition, comprising:

a) providing a polypeptide of a peroxiredoxin or of a fragment thereof;

b) providing, if required, dihydrolipoic acid;

c) combining said active components indicated in a) and/or b) with pharmaceutically acceptable additives and, if required, with one another.

29. (New) A method according to claim 28, wherein said polypeptide is provided by;

a1) selecting a nucleic acid molecule for preparing a recombinant plasmid nucleic acid;

a2) cultivating a line of cells transformed by a plasmid under conditions to produce said peptide and/or fragment thereof; and

a3) isolating a polypeptide or fragment thereof from the cell culture.

30. (New) A method according to claim 29, wherein said nucleic acid molecule is DNA which contains a sequence of a natural human protein of peroxiredoxin Prx VIhum (SEQ ID NO: 1) or a sequence of the N-terminal DNA fragment of peroxiredoxin (ΔPrx V1hum) (SEQ ID NO: 3) which has a similar antioxidant effectiveness but a smaller size and a higher permeability in the intercellular space.

31. (New) A method according to claim 29, wherein said nucleic acid is a DNA or RNA and includes a nucleotide sequence corresponding to the amino acid sequence of natural human protein of peroxiredoxin Prx VI (SEQ ID NO: 1) having a length of 224 a.b. or an N-terminal DNA fragment of. peroxiredoxin ΔPrx V1hum (SEQ ID NO: 3) having a length of 177 a.b. or an N-terminal DNA fragment of peroxiredoxin ΔPrx V1hum, whose length is selected within the range of from 178 a.b. to 224 a.b

32. (New) A method according to claim 29, wherein said plasmid nucleic acid is a recombinant one and comprises sequence SEQ ID NO: 1 or SEQ ID NO: 2 functionally linked with regulatory sequences providing expression of said plasmid nucleic acid in a compatible host cell.

33. (New) A method according to claim 29, wherein the provision of a polypeptide of peroxiredoxin or of a fragment thereof is effected with the aid of a strain or a line of cells that are transformed by the recombinant plasmid DNA and are a producer of a full-size recombinant peroxiredoxin Prx V1hum or of ΔPrxV1hum peroxiredoxin fragment.

34. (New) A nucleic acid molecule which encodes peroxiredoxin or a fragment thereof, which is a DNA or RNA and comprises a nucleotide sequence corresponding to the amino acid sequence of natural human protein of peroxiredoxin Prx VI (SEQ ID NO: 1) having a length of 224 a.b. or an N-terminal DNA fragment of peroxiredoxin ΔPrx V1hum (SEQ ID NO: 3) having a length of 177 a.b. or an N-terminal DNA fragment of peroxiredoxin ΔPrx V1hum, whose length is selected within the range of from 178 a.b. to 224 a.b

35. (New) A molecule according to claim 34, which is a recombinant one and comprises sequence SEQ ID NO: 1 or SEQ ID NO: 2 functionally linked with regulatory sequences providing expression of said plasmid nucleic acid in a compatible host cell.

36. (New) A strain or a line of cells that are transformed by the recombinant plasmid DNA and are a producer of a full-size recombinant peroxiredoxin Prx V1hum or of ΔPrxV1hum peroxiredoxin fragment.